

IN THE CLAIMS:

The following listing replaces all previous listings of the claims:

1. (Previously presented) A multiple port single chip Ethernet switch comprising at least the following component parts:
 - a physical layer entity (PHY) including a plurality of ports;
 - an address table for being written to and read out information to operate the plurality of ports;
 - a switch for switching the Ethernet switch to a daisy chain test mode; and
 - an address resolution control logic including a source address learning engine for performing a packet source address learning process under the daisy chain test mode to deliver a test packet through the plurality of ports progressively from a start transmission port to a stop receiving port to test the chip;wherein said component parts of said Ethernet switch are formed on said single chip.
2. (Original) The switch of claim 1, further comprising an input for receiving the test packet.
3. (Original) The switch of claim 1, further comprising a packet generator for generating the test packet.

4. (Original) The switch of claim 3, further comprising a register for storing information of the test packet.
5. (Original) The switch of claim 1, further comprising a verification unit for verifying the test packet.
6. (Original) The switch of claim 1, further comprising an output for sending out the test packet.
7. (Previously presented) The switch of claim 1, wherein the source address learning engine includes a writing apparatus for writing a set of initial addresses to the address table under the daisy chain test mode.
8. (Original) The switch of claim 1, wherein the packet source address learning process sets a packet destination address as a next port.
9. (Previously presented) A daisy chain test for a single chip Ethernet switch integrated with a physical layer entity including a plurality of ports, the switch having an address table for being written to and read out information to operate the plurality of ports, the test comprising the steps of:
connecting each of the plurality of ports to a respective passive loop-back device;

selecting a start transmission port and a stop receiving port from the plurality of ports;

supplying a test packet to the start transmission port; and

proceeding a packet source address learning process for delivering the test packet from the start transmission port to the stop receiving port progressively, wherein the step of proceeding employs a source address learning engine with a daisy chain testing function; and

determining a test result by verifying a last received packet at the stop receiving port.

10. (Original) The test of claim 9, further comprising inputting the test packet to the switch.

11. (Original) The test of claim 9, further comprising generating the test packet in the switch.

12. (Original) The test of claim 9, further comprising verifying the test packet after the stop receiving port.

13. (Original) The test of claim 12, further comprising sending out the test packet from the stop receiving port.

14. (Original) The test of claim 9, wherein the learning process sets a packet destination address as a next port.